1.0 Environmental Results

This project section introduces the key elements of the **Work Plan**. It summarizes major environmental benefits and indicates how the positive effects of the Work Plan will support the EPA's mission statement: "To Protect Human Health and the Environment."

1.A Summation of Environmental Benefits

The Alabama Center for Rural Enterprise (ACRE) is the lead applicant in a consortium of 10 agencies pooling their collective resources to address critical wastewater management issues. More precisely, nonprofit organizations, city governments, universities, state public health officials will demonstrate simple, cost-effective, and decentralized wastewater management solutions to growing problems that represent significant threats to public health and the environment in Lowndes County, Alabama.

1.B Relevance to EPA Mission Statement

This project matches on a one-to-one basis with the EPA mission. Indeed, spiraling concerns over human health and the environment provided the rationale for this project. Specifically, this project recognizes that less than one resident in five in Lowndes County – one of the poorest in the nation – has an onsite wastewater system. Establishing an infrastructure to manage wastewater will reduce public health hazards while improving the environment.

2.0 Description of Project

This proposal section describes primary and secondary project objectives, identifies relevant potential problems, documents community-wide support, and cites pertinent planning data.

2. A: Objectives

ACRE has developed the following primary and secondary project objectives, which arise from extensive collaborations with its strategic partners.

1. Alabama Department of Public Health (ADPH)
2. Alabama Onsite Wastewater Board (AOWB)
3. Black Belt Water and Sewer Authority(BBWSA)
4. Community Resources Group/Rural Community Assistance Program (CRG/RCAP)
5. Fannie Mae
6. Homebuilders Association of Alabama (HAA)
7. The Town of White Hall, Alabama
8. United States Department of Agriculture Rural Development (USDA)
9. University of West Alabama Onsite Wastewater Association Training Center (AOWATC)
10. Alabama State University
11. Bradley, Arant, Rose and White
12. The Lowndes County Commission
13. The Alabama Chamber of Commerce
14. The Business Council of Alabama

Long-term, this project has three broad project ***goals*** that provide an overall conceptual orientation to the ultimate purposes of this proposal.

1. To demonstrate the feasibility and benefits of **decentralized** wastewater management for an underserved, rural population of minorities in Lowndes County, Alabama, located within the impoverished Black Belt region, as well as to show its relationship to economic development.

2. To repair, replace, or provide affordable onsite wastewater management systems using appropriate technologies and methods for poor residents in Lowndes County, Alabama that have been cited for noncompliance by the Alabama Department of Public Health for having no system or a failing system, thus causing significant public health risk.

3. To develop a decentralized wastewater management entity and sustainable approach for rural Lowndes County that might serve as a model for addressing straight piking applicable to large parts of the rural United States.

As a result of meeting these overarching ***goals***, this project will demonstrate simple, cost effective wastewater management solutions to situations in Lowndes County that are a significant threat to public health and the environment, and show that a properly designed and operated decentralized management program can (1) ***protect public health and environment***, (2**)** ***facilitate economic development in economically disadvantaged rural areas,*** and (3*)* ***provide a better quality of life for rural citizens, many of whom are on the margins of society***.

Beyond these three project goals and their outcomes, the Work Plan identifies seven primary objectives and five secondary objectives that describe more specific, immediate, measurable accomplishments, as noted in the following table:

Work Plan Objectives	
Primary Objectives	
Type	Objective
I. Project Management and Coordination	1. Develop and maintain a process to manage and coordinate the project with maximum local and community involvement as well as address sustainability issues. 2. Develop a Quality Assurance Quality Control Plan to ensure the integrity of the data collected. 3. Request an exclusion to National Environmental Policy Act (NEPA) requirements
II. Needs Assessment, Analysis, and Planning	4. Identify wastewater treatment needs using Geographic Information System based

	assessment methods and select management alternatives considering a range of land use planning techniques and wastewater treatment technologies capable of meeting resource specific water quality goals. 5. Through field investigations, determine site suitability for affordable onsite wastewater treatment and identify parcel specific wastewater management options. 6. Working with all stakeholders, develop a comprehensive master plan using long-term and short-term strategy to address wastewater issues in Lowndes County.
III. Education and Outreach	7. Design and create an education and outreach plan for local residents and develop a strategy to promote local adoption of wastewater management practices and report project accomplishments to local, state, and national audiences.
IV. Development and Implementation of a Management Entity	8. Establish inspection based septic systems maintenance and repair program, with supporting administrative procedures, technical guidance, inspection tracking database, and long term financing mechanisms. 9. Encourage residents' participation in existing financial assistance programs. 10. Build the capacity of local residents to effectively administer septic system management programs, and of wastewater professionals to design, maintain and construct alternative wastewater systems.
V. Construction	11. Repair, replace or retrofit septic systems in selected areas using a range of innovative and alternative technologies through demonstration system installations.
VI. Monitoring and Evaluation	12. Monitor and evaluate the performance of alternative technologies installed as demonstration system to determine system operation, maintenance needs, and owner

	satisfaction. 13. Report local project accomplishments and management model to state and national audiences

Viewed collectively, these objectives constitute the ACRE Model for Local Wastewater Management in Rural Communities (henceforth, the ACRE Model). The ACRE Model begins with a comprehensive needs analysis that forms the basis for strategic planning. Then, from that baseline information, the model progresses systematically through financing, capacity development, management, construction, education, and evaluation phases, further differentiated through primary and secondary objectives; the secondary objectives provide crucial underpinnings for the more major primary objectives. Rather than rely on rigid, "top-down" intervention strategies, the ACRE Model follows a "bottom-up" approach that is driven by local needs and directed by local residents. Since they are actively engaged in the entire process, their "buy-in" is ensured and long-term impact is sustained.

Relevant Problems

It is axiomatic that a project of this scope will encounter problems and it would be naïve to think otherwise. Project planning is, of course, the remelioration key. As the project collaborators planned this proposal, they identified the following potential problems.

1. **Financial** – With the seventh highest poverty rate in the State of Alabama, rural Lowndes County is a Black Belt county situated between Selma and Montgomery, the state capital. With a mostly African American population, Lowndes County is best known for the historic 1965 voting rights march of which most of the 54 miles passed through Lowndes County. 31.40% of the population lives below the poverty line. There are 5, 801 housing units at an average density of 17.6 people per square mile in the 714 square mile county. 17% of the housing is substandard, and at least 31% of the housing is mobile homes. Straight Piping is prevalent in this county, especially among mobile home owners. Straight piping is a process by which untreated sewage is illegally discharged into the environment without passing through a septic system or a sewage system. This is a common problem in Lowndes County and a potential source of numerous health problems. Compounding poverty with prairie soils that do not perc the problem has grown and continues to expand adding to Nonpoint Source Pollution/(NPS) NPS is the largest source of water quality impairments across Alabama, and the nation. A project of this scope requires substantial funding. The EPA support is crucial to start-up project activities and additional funding will be needed to complete and sustain this project. Additional funding will be sought from alternative grant sources and lending organizations. For years, grants have been the lifeblood of ACRE and its predecessor. As a result, ACRE has established long-term relationships with major grantmakers. Over two-thirds of the ACRE annual budget over the past decade has come from grant-funded support. While one cannot run a program on grants forever, ACRE grantmakers recognize it as a responsible steward of their funds. Once the funding for the initial phase of this proposed project ends, other grantmakers will be approached for follow-on funding. In that sense, the EPA funding requested in this proposal will become a magnet to attract follow-up support. Preliminary conversations with two corporations and several

community foundations have been encouraging. Additionally, USDA Rural Development 504 loans and/or grants are a potential source of future funds that could be used to pay the cost for repairs and improvements that will remove identified health or safety hazards. Further, ACRE proposes to partner with the local utilities to establish a revolving loan fund to assist families in need of proper wastewater disposal. ACRE will work with the town governments to seek funds to expand their sewer systems using alternative technologies to provide adequate disposal to wastewater to outlying areas. Also, ACRE will seek appropriations from State and local governments to help expand this project. Finally a fee structure will be developed and instituted to help sustain the maintenance of the systems long term.

Supporting Documentation from Interested Parties

Appendix One contains supporting documentation from other interested parties, including prominent citizens, governmental officials at all levels, corporations, and collaborating community based organizations. Specifically, supporting documents are provided by The Town of White Hall, the Homebuilders Association of Alabama, the Alabama Department of Public Health, and Alabama Onsite Wastewater Board.

Relevant Data from Planning Studies

Relevant data exists from multiple planning studies. This proposal section first addresses an overview of our targeted geographic region, followed by comments on the native soils that interact with the wastewater, and finally concludes with a focus on documented septic tank failures.

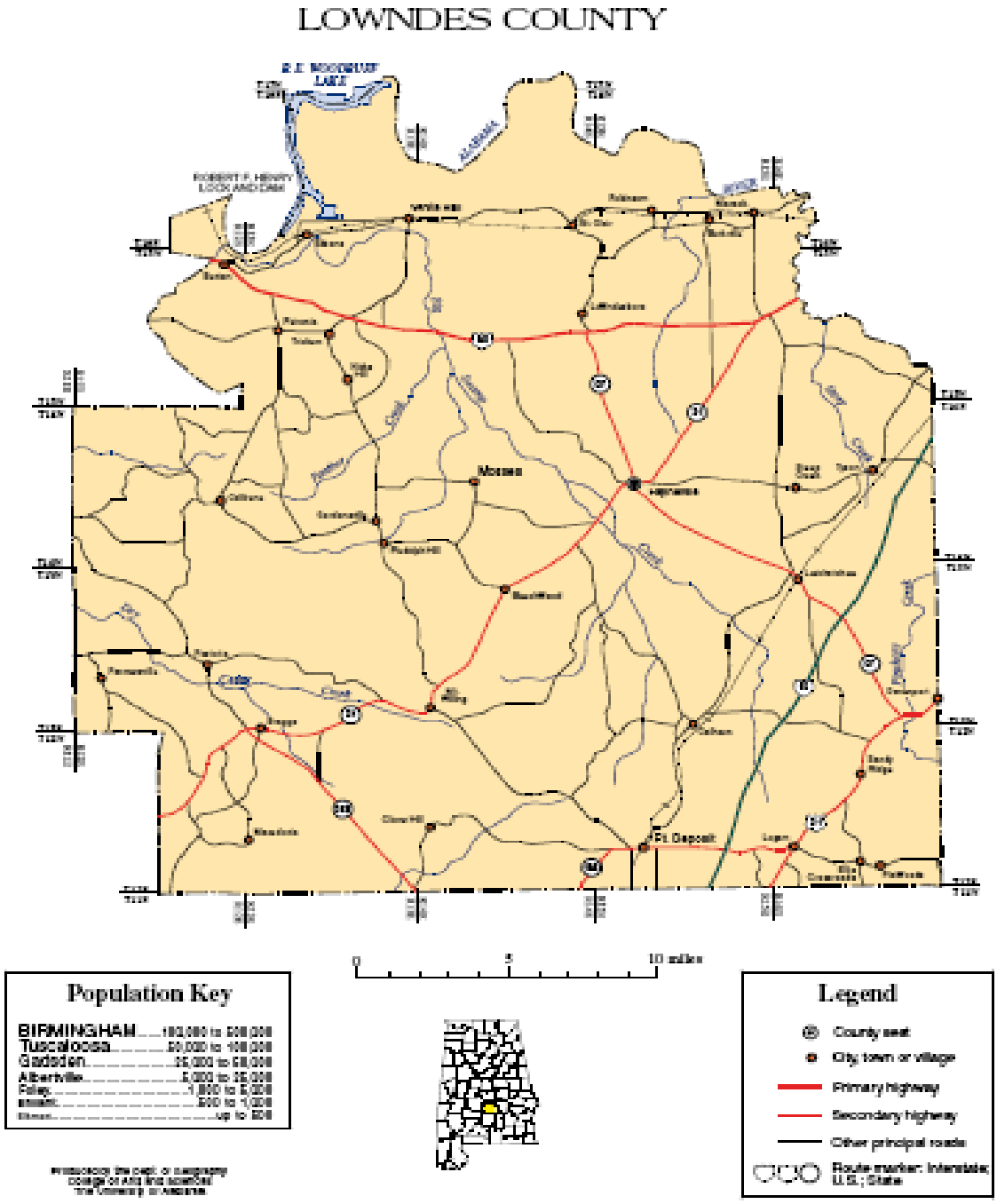
Broad Consequences of Failed Wastewater Systems

According to the EPA*, State and tribal agencies report that nationwide onsite septic systems currently constitute the third most common source of ground water contamination and that these systems have failed because of inappropriate siting or design or inadequate long-term maintenance (USEPA, 1996). In the 1996 Clean Water Needs Survey (USEPA, 1996), states and tribes also identified more than 500 communities as having failed septic systems that have caused public health problems. The discharge of partially treated sewage from malfunctioning onsite systems was identified as a principal or contributing source of degradation in 32 percent of all harvest-limited shellfish growing areas. Onsite wastewater treatment systems have also contributed to an overabundance of nutrients in ponds, lakes, and coastal estuaries, leading to the excessive growth of algae and other nuisance aquatic plants (USEPA, 1996). In addition, onsite systems contribute to contamination of drinking water sources. USEPA estimates that 168,000 viral illnesses and 34,000 bacterial illnesses occur each year as a result of consumption of drinking water from systems that rely on improperly treated ground water. Malfunctioning septic systems have been identified as one potential source of ground water contamination (USEPA, 2000).

*http://64.233.161.104/search?q=cache:oZrBpsN8Es4J:www.epa.gov/nrmrl/pubs/625r00008/html/625R00008.htm+failed+septic+tanks+and+illnesses&hl=en&gl=us&ct=clnk&cd=12

Geographic Target: Lowndes County, Alabama – Mid-Black Belt Region

Lowndes County is an economically depressed, largely rural county of 718 square miles located in south central Alabama. The county is considered a part of a geophysical region in the southern United States called the "Black Belt," a region named for its dark, fertile, calcareous soils that stretches from Georgia through Alabama into Mississippi. The following map of Lowndes County. Residents throughout the county have been cited for deficient and unhealthy wastewater systems.



This region was one of the South's most important agricultural areas before the Civil War, and as such was home to a large number of plantations and associated black slaves. The 2000 Census reports 13,473 residents, including 73% Black persons, 26% White persons, and 1% of other races. Eighty percent (80%) of the population is in the 18-65 age range. There has been no appreciable population change between 2000 and 2004. Nearly two-thirds are high school graduates. At least 83% of the households are owner occupied. Per capita income was slightly above $12,000 and nearly one-third live below poverty levels. Collectively these demographic

data from the federal government[1] portray a southern, rural, predominantly Black community of modest means, but proud of its heritage and committed to its betterment.

Lowndes County Soils

Key to understanding the serious need for wastewater infrastructure and management in Lowndes County is a broad understanding of its native soils. As a mostly rural county, only 18% of its residents are served by conventional municipal sewer systems, specifically residents of Hayneville and Fort Deposit. Accordingly, 82% of the Lowndes County residents must rely on onsite wastewater systems, typically a septic tank and in-ground dispersal fields (trenches). Unfortunately, the soils in Lowndes County consist principally of heavy clay material, which does not absorb water, resulting in significant "run-off" problems. Conventional onsite wastewater system does not work well to infiltrate septic tank effluent into the ground. The most common alternative onsite wastewater approach in these poor soil conditions is to construct a "mound" dispersal system. This mound is a raised bed of imported fill material, usually sand, in which effluent dispersal trenches can be installed. While this trenching methodology is environmentally effective, it presents two major problems. First, soils with better infiltration characteristics are not locally available and must be transported in from distant locations more than thirty miles away. Second, several dump truck loads, representing several tons of the appropriate fill material are needed to construct a typical mound as a result of poor native soil conditions. Raised mound wastewater dispersal systems may range in cost from a minimum of $3,000 to as much as $16,000 in these conditions—money that most residents don't have.

Although no survey has quantified the precise number of households with inadequate or no septic systems, the Alabama Department of Public Health estimates the number may range from 40% to 90% in Lowndes County. Regardless of exact numbers, the potential presence of disease-causing pathogens and other contaminants remain a grave public health concern.

Documented Septic Tank Failures

In the late 1990s, legal actions (litigation and arrests) were initiated by the Alabama Department of Public Health against 41sites for releasing raw sewage on the ground surface as shown in the above map. This action came after repeated notices of violation in an attempt to force wastewater management that met minimum environmental and health standards.

Upon being made aware of the of the litigation by local advocate Catherine Coleman Flowers, learned of the crisis nature of the septic system problem in Lowndes County. The Alabama Rural Initiative (ARI) was launched under the leadership of Flowers, in response to appeals for help from local residents and civic leaders. Further, a coalition of local and national leaders persuaded the Alabama Department of Public Health to place a moratorium on legal actions against the indigent until a solution to the overall problem was found. A broader understanding of the problem included lack of sanitary facilities, lack of economic development, derelict housing, and other issues. A partnership between the Alabama Rural Initiative and the Alabama Department of Public Health was created that has been maintained since 2002, a partnership that

[1] www.fedstats.gov/qf/states/01/01085.html Accessed October 23, 2005

is a foundational element of this proposal. ACRE, the successor to the Alabama Rural Initiative continues to maintain that partnership.

The Alabama Rural Initiative, operating under the auspices of ACRE, surveyed 41 non-compliant sites with support from project collaborators and consultants. Information from each of the sites was recorded, including soil descriptions, number of occupants at residence, type of system, nature of violation, and best repair option. Briefly, the survey revealed the following information.

- 21 sites (50%) did not have any type of onsite wastewater system
- 11 sites (27%) had septic tanks but no dispersal field lines installed
- 3 sites (7%) had acceptably functioning systems, but lacked a Health Department permit
- 1 site (2%) exhibiting failure had a valid Health Department permit.

Significantly, many of the sites visited were found to serve more than one household; in reality, the 41 sites visited served a total of 86 different residences. In essence, ACRE discovered that the ramifications of the septic tank failures impacted more persons than first anticipated.

B. Results and Benefits

The ACRE Model is intended to demonstrate to regulatory authorities, small rural communities and utilities in other counties and states that decentralized wastewater management is feasible and cost-effective. Put differently, the ACRE Model will demonstrate the life-changing power of an affordable properly designed and operated decentralized wastewater management program that protects public health, safeguards the environment, provides a better quality of life, and facilitates economic development in disadvantaged rural areas. The following proposal section delineates specific benefits for the environment, the recipient, the population served, and the general public.

The project outcomes will impact the knowledge, attitude, and behaviors in four inter-related sectors. Specifically, the project outcomes and resulting benefits will be:

1) The Environment

- Develop a model for rural wastewater management
- Develop local capacity to manage rural wastewater systems
- Improve the environmental impact of rural wastewater management systems
- Identify technologies that will function properly and efficiently in the prairie soils of Lowndes County

2) The Recipient

- Increase knowledge about alternative wastewater management technologies
- Serve as a focal point for marshalling local human, fiscal, and physical resources
- Advocate for rural wastewater management in other rural communities
- Facilitate economic development in a depressed area through the effective and affordable treatment of wastewater using alternative systems.

3) The Population Served

- The development of affordable housing communities using alternative systems
- Affordable alternative onsite systems

- Restore compliance for noncompliant households
- Remove threat of jail or eviction from noncompliant properties
- Create jobs by designing, installing, operating, and repairing rural wastewater systems

4) The General Public

- Protect public health of local residents
- Provide knowledge and incentives through education and outreach programs to homeowners
- Empower citizens in wastewater management issues

C. Approach

The following proposal section details the Work Plan and how it will be accomplished. Once described, mitigating factors are discussed along with the rationale for the selection of the Work Plan and its unique features.

Work Plan Details for Primary and Secondary Objectives

Work Plans are described for each primary and secondary project objective, including a list of action items, tasks necessary to accomplish them, and the responsible parties for generating the project products. The responsible parties are generally described below using their project titles. For further specification of names of key project personnel, see Secondary Objective # 3 as well as resumes in the proposal (c.f. Appendix Four).

Primary Objective 1: Develop and maintain a process to manage and coordinate the project with maximum local and community involvement as well as address sustainability issues.

In June, 2002, the 41 sites cited by the Alabama Department of Public Health as lacking or having failing septic systems were surveyed by representatives of the ADPH and the Alabama Wastewater Authority, e.g., consulting engineer Larry E. Speaks of Montgomery. The 41 sites are listed in show in the map on page five. These sites will receive priority servicing in this project. Associated households at the same locations will also be served, provided cost-effective engineering solutions can be found. Approximately, 86 households will be served as noted in Appendix Two.

Action for PO (Primary Objective) 1.1: Update survey of identified onsite failures in Lowndes County.

Using the 2002 information, the 41 sites will be resurveyed to (1) update the information (owner, occupants, water use rate, soil composition, sewage system), and (2) determine if a new onsite system is necessary. Owner cooperation is crucial This is will be a cooperative activity between the Blackbelt Water and Sewer Authority and the Alabama Department of Public Health. Informal feedback suggests that very few changes have occurred since the 2002 survey.

PO 1. 1: Tasks:

a. Inform residence owner of intent to remedy situation.

b. Create agreement and secure permission to do work
c. Update information as to ownership, occupants, water usage, sewage system
d. Update soil composition
e. Formulate appropriate intervention strategy
f. Discuss potential intervention strategies with homeowner
g. Disseminate educational material regarding threat to public health and need for project

Responsibility: ACRE Administration Manager, VISTA Volunteer, Outreach Coordinator BBWSA, ADPH, Project Team.

Outcomes: Memoranda of understanding with residence owners. Use survey as noted in Appendix Three.

Action PO 1.2: Prioritize and rank residences in terms of risk and need.

Based on public health risk, environmental risk, need, and homeowner cooperation, each site will be scored and ranked for replacement/repair/installation of an appropriate onsite wastewater system. ACRE (and/or its contractors), the BBWSA, and the Alabama Department of Public Health (local and state-level, if possible) will establish the priority and ranking, based on field surveys and information.

PO 1.2: Tasks:

a. Develop a rating system to establish intervention priorities, taking into account public health risk, cooperation, and location.
b. Generate a rank ordered listing of intervention priorities and appropriate work plans.

Responsibility: ACRE Project Director, BBWSA, ADPH, Field Manager (TBD, with construction management and decentralized water systems experience).

Outcome: Prioritized work plan.

Primary Objective 2: Develop a Quality Assurance Control Plan to ensure the integrity of the data collected.

ACRE, the BBWSA and/or its contractors will assess local population density, locations of housing units, areas of potential growth (industrial parks, residential development, commercial development.), existing sewer systems, and other factors to determine present an future wastewater infrastructure needs. Ideally, certain areas of the region (county/counties) will be identified (because of potential growth) for targeting new wastewater clusters.

Technology is available to cost-effectively provide effluent sewer to areas of 5 mile radii. Existing municipal sewer systems in Hayneville and Fort Deposit may be identified for expansion to capture potential development. And certain areas of the county will be identified as likely to be served by individual onsite wastewater systems indefinitely. Problem areas (soils, failures, economic conditions, etc.) will be identified and prioritized for action. Essentially, rural county wastewater might be managed in three different ways: (1) with conventional sewer (within and

surrounding existing sewer systems, e.g., the conventional sewer systems that exist in the towns of Hayneville, Fort Deposit, and Mosses; (2) with cluster systems, where higher housing densities may exist now or in the future, and (3) with individual onsite systems, where residences are isolated and housing density is low.

Use of the 5 Decentralized Management Models,[2] as developed by EPA will be considered and incorporated into the "Strategic Management Plan."

Action PO 2.1: Gather appropriate data such as population density, housing units, existing sewer, soils, and implement into a GIS database.

PO 2.1 Tasks:

a. Collaborate with Alabama Department of Environmental Management (ADEM) and U.S. Department of Agriculture to get soils information regarding the type of soil and its percolation or infiltration rate to determine the suitability of the soil for an absorption area;
b. Work with regional planning commission to get housing density information.
c. Obtain from the homebuilders association a list of future areas of having high growth potential.
d. Organize this information into a GIS database.

Responsibility: ACRE Project Director, BBWSA Board, VISTA Volunteer

Outcome*:* A GIS searchable database of key wastewater management variables essential for making planning decisions.

Action PO 2.2: Assimilate GIS database information into an overall prioritized plan.

PO 2.2 Tasks:

a. Review variables and their interaction effects
b. Formulate intervention plan.

Responsibility: ACRE Project Director, BBWSA Board

Outcome: Prioritized plan for developing local interventions.

Primary Objective 3: Request an exclusion to NEPA requirements.

With the needs assessment and strategic planning now completed, the next step is to secure additional funding beyond the EPA grant support, which will come from public and private grantmaking agencies as well as customer revenue.

[2] U.S. Environmental Protection Agency Onsite Wastewater Treatment Systems Manual, (EPA/625/R-00/008), Feb. 2, 2002, Washington, DC.

Action PO 3.1: Seek assistance from CRG/RCAP, ADPH, other Federal and state entities, foundations, corporations, and members of the Technical Advisory Committee in identifying sources of financial assistance.

PO 3.1 Tasks:

a. Search electronic databases of grantmakers: grant.gov, GrantSelect, Federal Register, FC Search
b. Conduct pre-proposal to refine initial list of potential project sponsors
c. Narrow initial list to identify grantmakers with highest probability of providing support

***Responsibility*:** ACRE Project Director

***Outcome*:** List of top funding prospects

Action PO 3.2: Explore various options for generating revenue through customer charges.

PO 3.2 Tasks:

a. Canvas other rural utilities for best practices.
b. Determine operation costs and funding needs.
c. Draft a schedule of rates.

Responsibility: BBWSA Board, ACRE Project Director and Administration Manager, Technical Advisory Committee

Outcome: Schedule of rates.

Primary Objective 4*:* Identify wastewater treatment needs using GIS based assessment methods and select management alternatives considering a range of land use planning techniques and wastewater treatment technologies capable of meeting resource specific water quality goals.

Local capacity building efforts are already underway. For instance, the Community Resources Group/RCAP provided 30 hours of board management training to the Black Belt Water and Sewer Authority. Further, the BBWSA, board members visited Dr. Kevin White in Mobile, AL to learn about alternative systems demonstrations and their application in difficult soil conditions. Three members of the ACRE staff, including the VISTA Volunteer, attended an EPA conference on Decentralized Systems in Atlanta, Georgia. The Alabama Wastewater Authority, a for profit entity, will partner with ACRE and the BBWSA to provide training for local technicians and Board members.

A major resource is the University of West Alabama's Onsite Wastewater Association Training Center (AOWATC) located in Livingston, Alabama. BBWSA board members and interested citizens will visit AOWATC for additional orientation in onsite systems. Finally, BBWSA also will establish lines of communication and share information with other local utilities such as the seven water authorities in Lowndes County.

Action PO 4.1: Continue board training regarding management of rural wastewater systems.

CRG/RCAP has a comprehensive board training curriculum which includes these topics:

1. --Wastewater System Management
2. --Current and Future EPA, ADEM, and ADPH Rules and Regulations
3. --Basics of Centralized and Decentralized Wastewater Systems
4. --Administrative Management Practices
5. --Policy Development
6. --Working with Consultants and Engineers
7. --Financial Options for System Projects or Upgrades
8. --Managing People
9. --Financial Management
10. --Long Range Plans

PO 4.1 Tasks:

a. Training will be provided by the Alabama Onsite Wastewater Association Training Center. Specifically, training will be provided in three different classes:

1. First time installer licensing class
2. Advanced licensing class
3. First time pumpers licensing class

Responsibility: ACRE Project Director,, BBWSA Board**.** Governance Advisory Council. TA Providers, The Homebuilders Association of Alabama, The Alabama Wastewater Authority, Bradley, Arant, Rose, and White, ADPH, USDA Rural Development

Products: Board understanding of management responsibilities (see list above)

Action 4.2: Orient Board and staff regarding systems and soil identification.

PO 4.2 Tasks:

a. Training at University of West Alabama Onsite Wastewater Association Training Center.
b. Site visits to failing sites in Lowndes County directed by Project Director.
c. Workshop on public health issues by Director of Environmental Services, Alabama Department of Public Health.
d. Orientation on needs of economic development projects by representatives from businesses locating in Lowndes County.

***Responsibility*:** ACRE Administration Manager arranges events. BBWSA and staff members mandatory participation.

Products: Board and staff updated knowledge on wastewater systems.

Action PO 4.3: Coordinate and communicate with other local utilities.

PO 4.3 Tasks:

a. Identify point of contact for all local utilities
b. Meet individually with contacts to explain project purpose and solicit cooperation
c. Pinpoint capacities and capabilities for each utility

Responsibility: BBWSA Board, ACRE Project Director, Administration Manager and VISTA Volunteer

Outcome: Established channels of communication and knowledge of local capacities and capabilities.

Primary Objective 5: Through field investigations, determine site suitability for affordable onsite wastewater treatment and identify parcel specific wastewater management options.

Simply put, the ACRE Model follows a "bottom-up" approach; input and direction must come from the project participants, those most directly affected by the wastewater problems. Acceptance of solutions is much higher when participants have an active voice in the decision-making process. This proposal section discussions how to build a consensus that maximizes project management through shared governance. The first step is to establish a Governance Advisory Council. They will have the business acumen needed to make thoughtful decisions. They also have peer relations with other community leaders that are essential to attract financial and volunteer support. Finally, they are a source of wisdom, insight, and strategic counsel.

Action PO 5.1: Establish the collaborative principles of shared governance

PO 5.1 Tasks:

a. Establish a Governance Advisory Committee
b. Identify key principles of shared governance, including, but not limited to the following:
    i. **Collaboration Principle # 1**: Collaborators talk about the strategic planning process used to develop the proposal.
    ii. **Collaboration Principle # 2.** Collaborators identify the contributions of each participant and how it contributes to the "big picture."
    iii. **Collaboration Principle # 3.** Collaborators agree in advance how they will cooperate programmatically.
    iv. **Collaboration Principle # 4.** Collaborators schedule progress reports that involve the major players.

Through these collaboration principles, participants will be able to exchange tips, tools, and techniques. Effective collaboration will cause significant behavior change to occur during the project. As a consequence, collaboration becomes an instrument of change. It significantly improves the distribution of tasks associated with the work process or reduces the number of steps needed to achieve desired results. It becomes the catalyst for work process change, streamlining decision-making and improving the quality

information presented to participants. As a result, the collaboration is "real" and not a phantom one because all stakeholders can share in the governance of the project.

***Responsibility*:** ACRE Project Director, Governance Advisory Committee

***Outcome*:** An agreed-upon set of guidelines to collaborate and govern this project, one that rests up community support.

Action PO 5.2: Build consensus to operationalize share governance principles

PO 5.2 Tasks:

a. Review collaborative principles of shared governance
b. Brainstorm ways in which each principle can be put into practice via a Round Robin procedure
c. Establish action plans for each implementation suggestion

Responsibility: BBWSA Board, ACRE Project Director and Administration Manager, Technical Advisory Committee

Outcome: A list of action items to implement the collaborative principles of shared governance.

Primary Objective 6*:* Working with all stakeholders, develop a comprehensive master plan using long-term and short-term strategy to address wastewater issues in Lowndes County..

The Field Manager will oversee the construction/installation. The winning bidder for the Field Manager position will work with the utilities relative to the approved wastewater systems at each of the 41 identified sites (or clusters of sites) based on prioritized rankings. Sites with the highest priority will be installed first. Documentation, i.e., schematics, photos, as-built drawings, will be compiled.

PO 6.1 Action: Contract with qualified installation contractor(s).

PO 6.1 Tasks:

a. Write Request For Proposals (RFP)
b. Solicit competitive bids
c. Hold bidders conference
d. Select winning bidders

Responsibility: The Field Manager and the Alabama Wastewater Authority will review submitted bids and make recommendations to the ACRE Project Director.

***Outcome*:** Contractors are identified

PO 6.2: Action: Secure appropriate regulatory permit.

PO 6.2 Tasks:

a. Apply for appropriate environmental, public health, and public works permits using information from the winning construction bids

Responsibility: Field Manager, ACRE Administration Manager, and Construction Manager

Outcome: Permits authorizing that construction can begin.

PO 6.3 Action: Installation or repair of individual wastewater management systems/clusters.

PO 6.3 Tasks:

a. Order equipment.
b. Construct onsite system as per its construction plan
c. Train homeowner and occupant in basic operation and maintenance

Responsibility: Onsite installer directed by Field Manager.

Outcome: Operational wastewater management system compliant with environmental and health standards. Homeowners trained in system maintenance.

PO 6.4 Action: Monitor the construction.

PO 6.4 Tasks:

a. Oversee the construction of the wastewater system so that it meets design criteria.

Responsibility: Field manager

Outcome: Operational wastewater system per design.

Primary Objective 7 : Design and create an education and outreach plan for local residents and develop a strategy to promote local adoption of wastewater management practices and report project accomplishments to local, state, and national audiences.

The ACRE Model is not unique to wastewater management problems in Lowndes County, Alabama. Rather, it is a parsimonious device for rural communities to develop local solutions to local problems. Briefly, it begins with a needs analysis that forms the basis for strategic planning as it deals with universal topics: financing, capacity development, project management, construction, education, and evaluation. To fulfill its commitment to provide transparent reports on accomplishments and, more broadly, articulate the ACRE Model throughout the nation, a comprehensive mix of 10 dissemination strategies are adopted, as described below.

PO 7.1 Action: Report project accomplishments and outcomes

PO 7.1 Tasks:

a. Compare quarterly progress against benchmarked timelines
b. Write quarterly and annual progress reports
c. Distribute reports to EPA with copies to all project collaborators
d. Publish reports on ACRE Web site

Responsibility: ACRE Project Director, Field Manager

Outcome**:** Key stakeholders are aware of and can monitor project progress

PO 7.2: Action: Disseminate widely the ACRE Model

7.2 Tasks:

a. Implement Active Dissemination Strategies
    i. Short Courses/Seminars
    ii. Web Sites
    iii. Demonstrations
    iv. Site Visits
    v. Teleconferences
b. Implement Passive Dissemination Strategies
    i. Consumer Summaries
    ii. Journal Articles
    iii. Press Releases
    iv. National Information Sources
    v. Conference Papers

Responsibility: The Project Director and Governance Advisory Council will identify target audiences and specific project messages for each of these 10 dissemination strategies.

Outcome: The project outcomes and the ACRE Model are disseminated widely to interested citizens, health officials, environmental professionals, academics, practicing engineers, construction managers, policy makers, and local governmental officials throughout the nation.

Primary Objective 8: Assess the benefits and changes to local public health and environment as a result of project completion

This outcome evaluation examines the end result of this project. The goal here is to document the extent to which the project did what it was designed to do. Outcomes are the benefits, changes, or effects that occur to the target population due to participation in our project. Outcome measurements will examine three areas.

1. **Functional Status** indicators demonstrate that, as a result of the intervention, the participants quality of life improved in a meaningful way
2. **Humanistic** indicators tell you how clients feel about the intervention and reflect how well the project is working
3. **Economic** indicators calculate the costs and consequences of project interventions include a cost-benefit analysis.

For each measurement area, it is necessary to collect data by which the ultimate project success can be judged. To ensure the thoroughness of evaluation methods and the use of objective performance measures to produce quantitative and qualitative data, this project follows an evaluation model by Brinkerhoff, Brethower, Hluchyj, and Nowakoski.[3] This evaluation model ensures that specific questions are posed for the evaluation, that objectives and outcome criteria are clearly stated, that an information plan is in place and there are plans for data analyses, interpretation and reporting of results.

PO 8.1 Action: Evaluate Functional Status Outcomes

PO 8.1 Tasks:

a. Identify evaluation questions
b. Determine an information collection plan, including types of data, methods, and instruments
c. Specify a data interpretation plan
d. Disseminate evaluation findings

Responsibility: Internally: Project Director, Governance Advisory Council. Externally, Evaluation Consultant (with expertise in project evaluation and wastewater management)

***Outcome*:** The functional status of project outcomes is evaluated; that is, to what extent has quality of life improved, especially as regards environmental and public health dimensions.

PO 8.2: Action: Evaluate Humanistic Outcomes

PO 8.2 Tasks:

a. Identify evaluation questions
b. Determine an information collection plan, including types of data, methods, and instruments
c. Specify a data interpretation plan
d. Disseminate evaluation findings

Responsibility: Internally: Project Director, Governance Advisory Council. Externally, an Evaluation Consultant.

***Outcome*:** The humanistic project outcomes are evaluated; that is, to what extent has consumer satisfaction changed regarding the efficacy of wastewater management?

PO 8.3 Action: Evaluate Economic Outcomes

PO 8.3 Tasks:

a. Identify evaluation questions

[3] **Brinkerhoff, RO, Brethower, DM, Hluchyj, T, and Ridings-Nowakowski, JR**. (1983). *Program Evaluation. A Practitioner's Guide for Trainers and Educators. Sourcebook, Casebook*. Boston: Kluwer-Nijhoff

b. Determine an information collection plan, including types of data, methods, and instruments
c. Specify a data interpretation plan
d. Disseminate evaluation findings

Responsibility: Internally: Project Director, Governance Advisory Council. Externally, Evaluation Consultant

Outcome**:** The economic project outcomes are evaluated; that is, to what extent has the wastewater management interventions shown to be cost effective?

Primary Objective 9: Encourage residents' participation in existing financial assistance programs.

Primary Objective 10: Build the cap of local residents to effectively administer system management programs, and of wastewater professional to design, maintain and construct alternative wastewater systems.

Primary Objective 11: Repair, replace or retrofit septic systems in selected areas using a range of innovative and alternative technologies through demonstration system installations

Primary Objective 12: Build the cap of local residents to effectively administer system management programs, and of wastewater professional to design, maintain and construct alternative wastewater systems.

Primary Objective 13: Report local project accomplishments and management model to state and national audiences.

Secondary Objective 1: Identify and assess public and private financing options

This secondary objective supports primary objective 3. Specifically, this secondary objective evaluates in a preliminary fashion the various additional financing options prior to securing project financing – the goal of primary objective 3

SO (Secondary Objective) 1.1 Action: Identify Potential Financing Options

SO 1.1 Tasks:

a. Survey stakeholders for financing options, including grants, loans, user fees, gifts, special events, and major gifts
b. Survey best practices in other rural communities

c. Secure input from governmental representatives
d. Assemble list of financing options

Responsibility: Project Director, Governance Advisory Council

***Outcome*:** Potential funding options are prioritized and solicitations begin.

SO 1.2: Action: Evaluate Potential Financing Options

SO 1.2 Tasks:

a. From available list of potential financing options, categorize by type of funding, dollar potential, probable timeframe, and lead community contact
b. Project stakeholders rank order financing options
c. Tally rankings to determine financing priorities

Responsibility: Construction Manager

Outcome: Permits authorizing that construction can begin.

Secondary Objective 2: Develop local capacity to design, construct, operate, inspect, maintain, and repair rural wastewater management systems

This secondary objective supports primary objective 4. Specifically, this secondary objective helps develop local wastewater management capacity as a prelude to its effective administration -- the goal of primary objective 4

By way of background information, the state of Alabama passed FY 2000 legislation requiring all onsite installation and maintenance professionals to have special licenses before performing field work. Training for these licenses and the licensing process is offered by the University of West Alabama Onsite Wastewater Association Training Center (AOWATC) at Livingston, Alabama. There are three licensing programs in Alabama for professionals in the onsite industry. They are: Pumpers Licensing Program, Septic Tank Manufacturers Program, and the Installers Licensing Program. All individuals seeking licensure in Alabama must complete the appropriate licensing class and then pass the required licensing examination, which is administered by the Alabama Onsite Wastewater Board at the end of each class. Continuing education is required to maintain licensure.

With support from the U.S. Department of Labor, ACRE has submitted a plan to develop in Lowndes County for a Career Tech Workforce Development Center to be located at White Hall. A major partner in this project is Selma CareerLinks, an organization that helps residents of low-income communities identify career and training opportunities, and then provides scholarships under the Workforce Initiative Act to various licensed training establishments. Other partners include the Alabama Industrial Development Training (AIDT), and its Focused Industry Training

Program, which provides training to individuals in need of primary and academic skills. ACRE already has facilitated a relationship between AOWATC and CareerLinks with the goal of getting AOWATC on the state-approved WIA training list. When this is implemented, Lowndes County residents will be encouraged to apply for training as installers as part of this project. They will then be eligible to receive scholarships through CareerLinks for this training.

Action SO 2.1: Facilitate training of local onsite wastewater installers and maintenance providers.

SO 2.1 Tasks:

a. Recruit Lowndes county residents as installers.
b. Implement arrangements with CareerLinks and AOWATC.

Responsibility: ACRE Administration Manager.

Products: Trained local installers and maintenance providers.

Secondary Objective 3: Develop and maintain a process to coordinate and manage the project with maximum community involvement

This secondary objective supports primary objective 5. Specifically, this secondary objective helps develop a process by which project administration is maximizes through shared local governance. -- the goal of primary objective 5

The process of developing a solution to the pervasive problem of absent or failing onsite wastewater treatment systems in Lowndes County has been one of citizen involvement from the outset. One of the fundamental principles of the ACRE Model is that the people suffering the problem must be involved in the creation and implementation of the solution. When ACRE was first made aware that residents of Lowndes County were facing arrest and eviction from their own land because they could not afford to install septic systems, public hearings were held in the five commission districts of the county. To underscore the value placed on the testimony and opinions of the community, the sessions were videotaped and a court reporter was hired to make a record of the proceedings. Some 1500 residents participated in the public meetings. They told of their inability to afford the $6,000 to $12,000 cost of the systems, and expressed their fears of losing their land or going to jail. Hundreds of people volunteered to help the address the problems of their communities.

The need for a citizen-controlled authority that would manage development of a county-wide approach became evident. The residents decided that the most expeditious avenue for creation of the authority would be through the Town of White Hall. The Mayor and Council of the Town of White Hall approved the application to charter the Black Belt Water and Sewer Authority. With technical assistance from the Community Resources Group/Rural Community Assistance Program (CRG/RCAP), the National Center for Neighborhood Enterprise/Alabama (now ACRE) convened a new round of hearings in each of the Lowndes County commission districts to enable residents of each district to choose their own representative to the governing board of the BBWSA. NCNE/ACRE helped the residents acquire the services of an experienced Alabama

land use lawyer who drew up the articles of incorporation. The BBWSA received its charter in 2004 as a public corporation for the purpose of operating a sanitary sewer system pursuant to Code of Alabama 11-50-310 *et seq*.

Action SO 3.1: Establish and maintain a coordinated program management structure.

The management structure will consist of:

The ***Governance Advisory Council*** will consist of a representative of the BBWSA Board, the Mayor of White Hall, and representatives from each of the organizations providing major technical assistance and resources. They include: ACRE, The Town of Mosses, the Town of Hayneville, the Town of Lowndesboro, the Town of Benton, the Town of Fort Deposit, the Town of Gordonville, the Town of White Hall, the Lowndes County Water Authority, The White Hall Water Authority, The Black Belt Water Authority, Lowndes Citizens United for Action, and Lowndes County Board of Commissions.

The ***Project Team*** will consist of a Project Director, ACRE Project and Administration Managers, Outreach Coordinator, BBWSA Board and staff members.

The ***Project Director*** will be responsible for overall management and technical direction of the project. As a member of the Project Team, the Project Director is responsible for communicating with the Board of Directors; prioritizing individual projects; ensuring that the construction implementation plan is executed; overseeing outreach activities with the community; and developing the long term management model in association with the Board, Field Manager, and community. The Project Director, Catherine Coleman Flowers, will direct and receive reports from project consultants, including the engineering consultant.

The ***Field Manager*** will supervise and be responsible for field activities of the project, including testing, assessment, selection of subcontractors, overseeing of surveys and installation, operations and maintenance of systems, e.g, winning contract bidder.

An ***Administration Manager*** will maintain all schedules and communications and act as the project "switchboard." With the Project Director and Field Project Manager, the Administration Manager will create financial records and reports, maintain accounts, and transmit reports and expenditures to EPA and other grant providers. He/she also will maintain the construction schedules. It is anticipated that a professional Grants Administrator will be contracted with on a consultant basis to provide technical assistance to the local Administration Manager, as a means of building local capacity, e.g., Avis McGhee.

An ***Outreach Coordinator*** will coordinate activities with homeowners/residents/community members; coordinates educational workshops and materials; brief homeowners or organize volunteers to conduct home visits; schedule public meetings; and encourage community participation in a variety of ways, e.g., VISTA Volunteer.

A ***Technology Advisory Committee*** will act as a sounding board for the Project Director in selection of technological approaches, management system models, potential sources of funding,

and provide other advice. Some of the nation's leading experts have volunteered to serve as advisors to the project. They include Dr. Bob Rubin (North Carolina State University); Valerie Nelson (National Onsite Wastewater Association); and Pres Allinder (Alabama Department of Public Health). Additionally, the Project Director will ask experts such as Leanne Whitehead (Tennessee Valley Authority); Dr. James Buchanan (University of Tennessee, Onsite Wastewater Training Center); Dr. Mickey Smith (University of West Alabama); Scott Drake, P.E., East Kentucky Power Cooperative, and experts in decentralized wastewater management finance and utility management to serve on the Technical Advisory Committee.

SO 1.1 Tasks:

a. Define goals and activities for the Governance Advisory Council.
b. Write specific position/job descriptions for Project Director, Administration Manager, and Outreach Coordinator,
c. Define goals and activities for the Technology Advisory Committee.
d. Establish communications/reporting requirements, formats, and channels of communication.
e. Coordinate routine meetings

Responsibility: ACRE with technical assistance from the Alabama Wastewater Authority.

***Outcomes*:** Job descriptions. Committee mission statements. Reporting formats and communications plan. Meeting reports.

Action SO 3.2: Administer project, document progress and make reports to supporters and stakeholders.

SO 3.2 Tasks:

a. Identify/hire individuals to be Field Manager
b. Develop specific individual work plans with timelines and measurable goals.
c. Document progress on a quarterly basis.
d. Make reports to Governance Advisory Council, stakeholders, EPA Project Officer.

Responsibility: ACRE and Project Team.

Outcomes: Staff contracts. Specific work plans. Reports.

Action SO 3.3: Coordinate with state and local wastewater regulators and other initiatives including economic development and/or housing programs that may offer cross-fertilization of information or benefits.

Projects underway in Lowndes County that may have relevance include U.S. Economic Development Administration projects to bring economic development to Lowndes County by establishing industrial parks to house suppliers to the Hyundai Motor Co. plant nearby, and the U.S. Department of the Interior Historic Trail Interpretive Center newly opened on Highway 80. Each of these developments will have unique wastewater treatment needs that might be factored into a county wide cooperative plan. Another potentially beneficial linkage is an ACRE planning

project funded by the U.S. Department of Labor for a Career Workforce Development Center. The DOL planning project will include provisions for training of wastewater professionals.

SO 3.3 Tasks:

a. Identify potential partnering entities and coordinate with other agencies and initiatives.
b. Designate a member of the Project Team (Governance Advisory Council Economic Development Committee member) to be liaison to these other entities.
c. Meet with economic development project managers to ascertain possible relationship with project.
d. Ensure that Governance Advisory Council and BBWSA board members are informed of these developments.

Responsibility: Project Team, coordinated by ACRE Project Director

Outcome: Reports on other developments that may benefit project.

Secondary Objective 4: Develop design alternatives and create a local construction plan

This secondary objective supports primary objective 6. Specifically, this secondary objective helps create design options that can eventually be implemented -- the goal of primary objective 6

The Field Manager will develop a construction plan (including any needed permit applications and associated drawings, soil tests, etc.) for each of the 41 prioritized sites, based on an examination of site characteristics and viable alternatives. Consideration for an individual onsite wastewater system, advanced treatment and/or dispersal, or a clustered system will be provided, stressing appropriateness, affordability, and maintainability.

It has been suggested by one expert that thought should be given to whether there is any possibility of a reduction in regulatory requirements that might result in a less expensive treatment system. Research will be done on this issue with the Alabama Department of Public Health (ADPH) and Alabama Department of Environmental Management (ADEM) including above ground dispersal with appropriate managed treatment.

SO 4.1 Action: Research regulatory options regarding treatment/dispersal.

SO 4.1 Task:

a. Meet with the Alabama Department of Public Health (ADPH) and Alabama Department of Environmental Management (ADEM) regarding status of regulatory requirements and whether there is any possibility of a reduction in requirements that would lead to less costly approaches.

Responsibility: Project Director, Field Manager.

Outcome: Clear definition of current and future regulatory requirements.

SO 4.2 Contract with a qualified engineer(s).

SO 4.2 Tasks:

a. Write job description, advertise, and select a qualified engineer (s).

Responsibility: BBWSA Board, Project Director, Field Manager.

Outcome: Engineering contract; one firm will provide all work.

SO 4.3 Action: Development of engineering alternatives and construction plan for each site.

SO 4.3 Tasks:

a. Using specific site information, develop cost effective construction plan.

Responsibility*:* Contract engineer overseen by Project Director, Field Manager, and BBWSA Board.

Outcomes: Individual site construction plans.

Secondary Objective 5: Create an education and outreach plan for local residents to encourage further installations

This secondary objective supports primary objective 7. Specifically, this secondary objective develops an educational outreach plan that can eventually be implemented -- the goal of primary objective 7

Action SO 5.1: Develop workshops with information about ongoing program and need for systems.

SO 5.1 Tasks:

a. Develop workshop presentations
b. Disseminate information to community about workshops.
c. Obtain materials from ADPH.
d. Secure speakers from ADPH, AOWATC
e. Publicize in newspaper, television stories.
f. Conduct workshops in various venues including ACRE Community Resource Center and local schools.

Responsibility: ACRE Project Director, VISTA Volunteer**,** Outreach Coordinator, Governance Advisory Council.

Outcomes: Workshop materials. Informed community.

Secondary Objective 6: Monitor local progress in evaluating repairs and installations of wastewater management

This secondary process evaluation objective supports primary objective 8. Specifically, this secondary objective monitors project progress in order to assess outcome benefits -- the goal of primary objective 8

This process evaluation generates information to improve project effectiveness during the grant period. This evaluation will help determine whether the processes and procedures are working, whether the participants are satisfied with their involvement. This approach represents a good management tool for making "mid-course corrections," providing the project director and Board with immediate feedback to make constructive revisions in all project phases and aspects.

Action SO 6.1: Document project progress

SO 6.1 Tasks:

a. Design monitoring protocol and measures.
b. Collect soil and grass samples
c. Answer key project management questions
    i. *Are sufficient numbers of key personnel adequately trained to carry out the project?*
    ii. *Do staff members reflect the ethnic, cultural, and linguistic make up of the community?*
    iii. *Are suitable facilities and equipment available?*
    iv. *Do current services respond to the needs of the target population and community?*
    .

Responsibility: ACRE Project Director, Field Manager.

Products: Data as to success of wastewater management systems.

Action SO 6.2: Document homeowner satisfaction.

12.2 Tasks:

a. Create survey instrument.
b. Survey homeowners
c. Answer key xxx questions
    i. Is the target population satisfied with services?
    ii. Are your staff members satisfied with their experiences?
    iii. What barriers still need to be overcome in order to improve participant satisfaction?

Responsibility: ACRE Project Director, Administrative Manager, and VISTA Volunteer, BBWSA Board, Outreach Coordinator, External Evaluator

Outcomes: Homeowner survey instrument. Results of survey.

Mitigating Factors

This project faces two mitigating factors. First, Lowndes County is a poor rural community. It lacks a wealthy tax base to finance many public works projects, including wastewater management. The EPA funding is a necessary but not wholly sufficient condition of total project

funding; the full amount needed will not be known until engineering recommendations are received. Nevertheless, the ACRE Model anticipates potential financial concerns. That is why, for example, securing additional project financing (Primary Objective 3) occurs early in the project process. Additional funding commitments will be obtained before proceeding with design implementation.

The second mitigating factor is organizational management; that is to say, successful completion of a project of this scope requires the mutual support and collaboration of many parties. Not all of the stakeholders have a history of working with collaborators outside of their own organizations. That is why, for example, this project is led by an individual who has a long and demonstrated track record of successful community coalition building.

Both mitigating factors – finances and leadership – are duly anticipated and project systems and procedures are in place to minimize their potential negative impact.

Rationale for Approach

Two factors underpin the motivation for this project. First, the harsh reality of wastewater management in Lowndes County demands immediate action to protect the health of the citizens and their environment. Paltry improvements in wastewater management will fail in the quest for sufficiency. A comprehensive, community-based plan is required, exactly what this proposal advocates.

Second, whatever wastewater management systems are eventually adopted must have the support of the local citizenry; otherwise, the project is doomed to eventual failure. That is why this project depends on local involvement of the citizens to the point that they actually become stakeholders in the decision making process. This local shared governance approach ensures participant "buy-in."

Unique Project Features

This project has three unique features, ones that have been discussed earlier in the proposal and are summarized again for convenience.

1. The community is not only actively involved, they actually decide project actions and outcomes through a process of shared governance
2. The ACRE Model underpinning this project has universal applications among poorer rural communities throughout the nation. Rather than offering a prescriptive approach to wastewater management, it establishes key parameters within which local communities make their own decisions
3. The project draws on the rich resources that exist within the broad networks available to the Project Team. Multi-disciplinary expertise from community, academic, business, and government sources can be marshaled to ensure project success.

Chronological Project Schedule

This project covers a two-year timeframe, beginning on October 1, 2006 and ending on September 30, 2008. This period spans eight calendar quarters. The following table reproduces the project primary and secondary objectives and indicates the project quarter (Q) in which the specific activities and tasks will occur, ranging from Quarter 1-8

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Work Plan Objectives		
Primary Objectives		
Type	Objectives	Milestones
Needs Assessment and Analysis	Identify and prioritize wastewater management needs responsive to local deficiencies	Q1
Planning	Develop a local model for addressing rural wastewater management needs.	Q2
Financing	Secure project financing	Q4
Community Capacity Development	Develop local capacity to effectively administer rural wastewater management systems	Q3-8
Project Management and Coordination	Maximize project administration through shared local governance	Q2-8
Construction	Implement designs resulting from local needs assessment	Q3-8
Education and Outreach	Report local project accomplishments and management model to state and national audiences	Q 7-8
Evaluation (Outcome)	Assess the benefits and changes to local public health and environment as a result of project completion	Q 8
Secondary Objectives		
Type	Objectives	Milestones
Financing	Identify and assess public and private financing options	Q 3
Community Capacity Development	Develop local capacity to design, construct, operate, inspect, maintain and repair rural wastewater treatment systems	Q 3-5
Project Management and Coordination	Develop and maintain a process to manage and coordinate the project with maximum local community involvement	Q 4-8
Construction	Develop design alternatives and create a local construction plan.	Q 4-8
Education and Outreach	Create an education and outreach plan for local residents to encourage further installations	Q 7-8
Evaluation (Process)	Monitor local progress in evaluating repairs and installations of wastewater treatment	Q 1-8

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1095 The milestones are target time frames and will be adjusted as demanded by current
1096 circumstances. Nevertheless, they are measured and realistic estimates based on past project
1097 experiences.

Responsible Project Personnel

Catherine C. Flowers, Executive Director, ACRE

Project Evaluation

Evaluation is a multifaceted term. In a general sense, the term "evaluation" means to gather information to judge the effectiveness of the project. However, more precise types of evaluation are warranted for this proposal. Specifically, this project will conduct both process and outcome evaluations. The process evaluation is described in Secondary Objective # 6. The outcome evaluation is described in Primary Objective # 8. The process and outcome evaluations examine both quantitative and qualitative data following the evaluation model by Brinkerhoff, Brethower, Hluchyj, and Nowakoski.[4] An Request for Vendor Quotation (RFQ) will be issued to attract the most qualified external reviewer.

D. General Project Description

Data Collection and Evaluation Criteria

This project does not involve any research or demonstration with human subjects or research animals. Rather, this project upgrades or installs wastewater management systems in Lowndes County housing. The project collects and maintains both qualitative and quantitative data. For example, qualitative data will examine user satisfaction with the newly installed wastewater management systems. Quantitative data, for example, will include the absence fecal bacteria in ground surface areas surrounding residences. Discussions above regarding process evaluation criteria (Secondary Objective # 6) and outcome evaluation criteria (Primary Objective # 8) further elaborate data collection protocol and evaluation criteria. Finally, to ensure that rigorous standards of data collection and evaluation are applied, both internal and external evaluators will be used.

Project Impacts

The management of onsite wastewater treatment systems has traditionally been the responsibility of the homeowner. In many locales, this responsibility is codified into regulations requiring the installation of a wastewater system before a building or occupancy permit is issued. Alabama does not have such a requirement, which means that thousands of households do not have any septic treatment systems.

In rural Alabama, many householders occupy mobile homes that are trailered to a rural lot and set into place. Although there may be bathroom fixtures and plumbing within the dwelling, only a straight pipe leads to the outside and wastewater is left to run onto the ground or into a ditch. The extreme poverty of many households in the Black Belt creates a major challenge to the creation and management of any kind of wastewater treatment scheme.

[4] **Brinkerhoff, RO, Brethower, DM, Hluchyj, T, and Ridings-Nowakowski, JR**. (1983). *Program Evaluation. A Practitioner's Guide for Trainers and Educators. Sourcebook, Casebook*. Boston: Kluwer-Nijhoff

As alternative technologies have developed, a second category of households experience a different problem, namely, management of complex technology that allows occupancy of land that does not "perc" for conventional septic systems and drain fields. Some counties, such as the nation's fastest growing county—Loudoun County, Virginia—are moving to create new management systems including regulations mandating operations and maintenance contracts to ensure that the more complex treatment systems are adequately maintained to protect public health.

The U.S. Environmental Protection Agency has encouraged the use of onsite decentralized wastewater treatment systems as alternatives to conventional centralized sewer systems through publications analyzing costs and benefits and identifying barriers to their use. In 1997, the EPA advised Congress that "Adequately managed decentralized wastewater systems are a cost-effective and long term option for meeting public health and water quality goals, particularly in less densely populated areas." While these decentralized wastewater systems hold bright promise for the future, certain barriers exist, according to the EPA, that inhibit the use of these systems

1. Lack of Knowledge and Public Misperception
2. Legislative and Regulatory Constraints
3. Lack of Management Programs
4. Liability and Engineering Fees
5. Financial Barriers.[5]

The ACRE Model will have a strong and positive impact on adopting decentralized wastewater systems and advances mechanisms for dealing with these barriers. Equally important, this project will help worthy, deserving, and need people to regain control over part of their daily living that is now characterized by lost hopes and limited aspirations.

ACRE EPA Budget Narrative

I. Personnel: Two Year Total = $127,200

The salaries reflect the three ACRE personnel supported on this project. Their FTE involvement and grant funded salaries are shown for both years.

II. Fringe Benefits: Two Year Total = $31,800

The ACRE fringe benefits represent 25% of salaries and include health insurance, life insurance, disability insurance, retirement and FICA.

III. Travel: Two Year Total = $20,750

The local travel within Lowndes County for year one represents 5,000 miles at the IRS authorized rate of $0.405/mile. This includes an estimated 200 trips at 25 miles per trip for the Project Director, Administrative Manager, Outreach Coordinator, and Field Manager

[5] U.S. Environmental Protection Agency Onsite Wastewater Treatment Systems Manual, (EPA/625/R-00/008), Feb. 2, 2002, Washington, DC.

collectively. The same local travel is projected for year two, except a mileage increase is anticipated to $0.445/mile.

The state and national travel is calculated on the basis of three people taking two trips at $1,350 per trip, including airfare, food, lodging, conference registration fees, and ground travel. Travel would include trips to EPA/DC and wastewater management conferences for key project personnel. The same travel is requested for year two, except the per trip cost is increased slightly to $1,400.

IV. Equipment: Two Year Total = $210,000

The equipment costs are targeted exclusively for the purchase of decentralized wastewater disposal systems as noted in Appendix Two. This includes such items as septic systems and sand for land fill purposes.

V. Supplies: Two Year Total = $15,100

The individual supply items are self explanatory and cost figures are based on prior NCNE/ACRE history.

VI. Contractual: Two Year Total = $103,000

The bulk of this funding will go to cover the salary of a full time field manager. Additional funding will support the honoraria of technology consultants. The remainder of the organizations listed will be providing cost-sharing support to the project.

VII. Construction: Two Year Total = $0

No construction costs are requested nor anticipated.

VIII. Other: Two Year Total = $14,900

Conference calls and U.S. Long Distance calls will support and facilitate project management and coordination, averaging $100/month over the two year period. Certain technical reference materials will be needed. Training materials will be generated to instruct individuals on how to perform maintenance on their new systems. The computer technology support will be used to develop GIS capability.

IX. Total Direct Costs = Two Year Total = $522,750

X. Indirect Costs: Two Year Total = $52,250

ACRE is requesting an indirect (facility and administration) provisional rate of approximately 10%.

XI. Total EPA Funding Requested = $575,000 over Two Years

Matching Funds

In addition to the EPA funding request of $575,000 over two years, ACRE and its collaborators will contribute an addition 25% ($143,750) in cost sharing project support, as the following table details.

Source	Amount	
	Year 1	Year 2
ACRE	$34,000	$34,000
Adventus Wastewater Solutions	$ 2,500	$ 2,500
AL Dept of Public Health	$ 5,000	$ 5,000
Allinder, William P.E., P.L.S.	$ 2,500	$2,500
Bradley, Arant, Rose and White, LLP	$ 2,500	$2,500
Brimstone Entertainment	$ 2,500	$2,500
Community Volunteers	$ 1,375	$1,375
Ecko Records	$ 2,500	$2,500
Alabama Fannie Mae Partnership Office	$ 6,000	$6,000
Town of White Hall, AL	$12,500	$12,500
TOTAL	$71,375	$71,375

ACRE: Two Year Total = $68,000

The ACRE dollar cost sharing reflects a 10% effort for the Project Director, Administrative Manager, and Outreach Coordinator that is not EPA funded for Year One. Rather, as evidence of its commitment to this project, ACRE will fund an additional 10% for all three persons beyond the 50% FTE for which funding is requested. In actuality, the FTE for each individual is 60%. The 10% cost sharing includes not only salaries, but also fringe benefits and indirect costs.

Adventus Wastewater Solutions: Two Year Total = $5,000

This represents the costs for Adventus personnel to provide consulting expertise on developing the construction plan, system designs and developing local capacity for system management and maintenance (In-Kind Match).

Alabama Department of Public Health: Two Year Total = $10,000

Soil tests for this project will be performed by soil scientists at the Environmental Services division of Alabama Department of Public Health. This includes personnel expense for AHPH staff to assist with legal advice and the development of educational and PR materials (In-Kind Match).

Allinder, William, P.E., P.L.S.: Two Year Total = $5,000

Engineering consultation and outreach to state, regional and national audiences his affiliations with professional and trade associations (In-Kind Match).

Bradley, Arant, Rose and White, LLP: Two Year Total = $5,000

George Harris of Bradley Arant will provide *pro bono* legal counsel, assistance with development of follow-up funding, and facilitating partnerships in the business community. (In-kind Match).

Brimstone Entertainment: Two Year Total = $5,000

The management of Brimstone Entertainment will donate the talents of its nationally known R&B recording artists to record public service announcements to support educational and consumer outreach efforts (In-Kind Match).

Community Volunteers: Two Year Total = $2,750

Volunteers from organizations throughout the county will contribute in service, personnel time and travel to conduct a county-wide survey to more accurately quantify the number of households with inadequate or no septic systems (In-Kind Match).

Ecko Records: Two Year Total = $5,000

The management of Ecko records will donate the talents of its nationally known R&B recording artists to make public service announcements to support educational and consumer outreach efforts (In-Kind Match).

Alabama Partnership Office Fannie Mae: Two Year Total = $12,000

Fannie Mae Partnership Office will provide computer equipment, training and software for counseling and documentation related to homeownership training that incorporates the care of Septic Systems. Fannie Mae will also facilitate partnership development.

Town of White Hall: Two Year Total = $25,000

The Town of White Hall will contribute the use of personnel, fringe benefits, facility and maintenance expenses for White Hall staff to assist with administrative duties related to the project on behalf of the Mayor and Town Council. The Town will also provide the services the staff of its Water Department to provide technical assistance to the project.(In-Kind Match).

Appendix One: Letters of Commitment

1. Town of White Hall
2. Homebuilders Association of Alabama
3. Fannie Mae
4. Alabama Department of Public Health
5. Alabama Wastewater Association

STATE OF ALABAMA
DEPARTMENT OF PUBLIC HEALTH
DONALD E. WILLIAMSON, M.D. • STATE HEALTH OFFICER

LOWNDES COUNTY HEALTH DEPARTMENT

July 21, 2006

Ms. Joyce Hudson, Environmental Engineer
EPA
Office of Waste Water Management
1200 Pennsylvania, Avenue, NW
Mail Code: 4204M
Washington, D.C. 20460

Dear Ms. Hudson:

SUBJECT: Wastewater Demonstration Project, Lowndes County, Alabama

The Alabama Department of Public Health (ADPH) is working cooperatively with the Alabama Center for Rural Enterprise CDC, Inc. (ACRE) and other like organizations to eliminate one of the county's most serious public health risks, the surface discharge of untreated sewage. Humans coming into contact with untreated sewage are at risk of contracting bacterial and viral diseases associated with improper disposal of human waste.

Lowndes County is very rural which makes expanding existing centralized sewer systems cost

City of White Hall

625 Freedom Road
White Hall, Alabama 36040
Phone: 334-875-5703
Fax: 334-875-5708

John Jackson
Mayor

Council Members
Moses Bandy
Elizabeth Davis
Annie B. Jackson
Peggy McReynolds

Bertha White
Mary McReynolds
City Clerks

Horace Jackson
Chief of Police

Thomas McReynolds
Chief of Fire Department

July 20, 2006

Ms. Joyce Hudson
Environmental Engineer
EPA – Office of Wastewater Management
1200 Pennsylvania Avenue, NW
Mail Code: 4204M
Washington, DC 20460

Dear Ms. Hudson:

The Town of White Hall strongly supports the EPA application submitted by the Alabama Center for Rural Enterprise CDC, Inc (ACRE). The staff of ACRE has been instrumental in finding a solution for inadequate sewage in Lowndes County and surrounding areas.

We will continue to work with ACRE to solve the wastewater disposal problem and offer our citizens a better quality of life.

ALABAMA ONSITE WASTEWATER BOARD
400 SOUTH UNION STREET • SUITE 340
P. O. BOX 303552
MONTGOMERY, ALABAMA 36130-3552
PH: 334-269-6800 FAX: 334-269-5953
aowb@aowb.state.al.us

Michael Lanier
Chairman

Gary W. Stringfellow
Executive Director

July 20, 2006

Ms. Joyce Hudson
Environmental Engineer
EPA
Office of Wastewater Management
1200 Pennsylvania Avenue, NW
Mail Code: 4204M
Washington, DC 20460

Dear Ms. Hudson:

On behalf of the Alabama Onsite Wastewater Board (AOWB), I'd like to express my support for the EPA Grant Application for ACRE's Wastewater Demonstration Project in Lowndes County, Alabama.

Lowndes County is one of a number of "black belt" Counties in Alabama characterized by clayey soils and poor economic conditions. These two characteristics are particularly damaging with respect to onsite/decentralized wastewater management—poor soils hamper performance and necessitate large, expensive systems, and poor economic conditions make installation and maintenance of systems unaffordable to most residents.

The decentralized wastewater demonstration project in Lowndes County is certainly needed to alleviate some of the many existing onsite wastewater problems, but will also be used to show how innovative decentralized management concepts can be employed cost-effectively even in poor soil conditions. Implementation of these concepts is hoped to also show how innovative wastewater concepts can spur economic development in rural areas.

I trust that the USEPA/ACRE partnership will clearly outline project goals, objectives, tasks, and timelines to address the multitude of decentralized wastewater management issues in Lowndes County. The AOWB (and myself, individually) will support this project to the extent of our authority.

Sincerely,

Kevin D. White

Kevin D. White, Ph.D., P.E.
Board Member and Professor
University of South Alabama

Appendix Two: Data on Target Sewage Sites

Based on data resulting from the 2002 survey of the 41 noncompliant sites, the follow information was determined as a result of the Larry Speaks survey.

Lot #	Residences	Bedrooms	Existing Septic Tank	Pump	Ft. Disposal Field	Inches Fill	2002 Cost
Single Isolated Residences: No Sewage System							
33	1	3	None	-----	260	34	$9,100
38	1	4	None	-----	400	4	$3,000
30	1	4	Yes	-----	320	34	$9,300
24	1	3	Yes	-----	242	22	$6,000
23	1	4	Yes	?	280	34	$9,600
18	1	?	Yes	Yes	260	34	$10,400
19	Travel Trailer	-----	None	-----	80	16	$3,300
40	1	(see					

		Additional Notes)					
Single Isolated Residences: With Sewage System							
34	1	3	Yes	Yes	260	34	$10,600
7	1	3	Probably	Yes	260	34	$10,600
14	1	No system needed					
41	2	No system needed					
Mainly Isolated with Few Other Residences That May have Sewage Problems – No Sewage Systems or Inadequate System							
4	1	(see Additional Notes)					
3	2	6	Yes	Yes	500	34	$13,500
32	2	6	Yes	No	500	25	$11,500
37	1	7	Yes	Yes	800	20	$12,600
22	1	3	Yes	Yes	300	34	$10,700
5	1	3	(see Additional Notes)				
17	1	3	None	-----	300	14	$6,900
9	1	2	None	-----	12	12	$2,500
Residences with no sewage in a subdivision with large lots; can be handled on site – Mingo Bracy Road							
39	1	3	Yes	-----	Dual 700	22	$8,800
16	2	7	None	-----	1000	16	$13,000
8	2	6	None	-----	900	18	$13,000
6	2	8	None	-----	330	34	$14,000
31	1	3	Yes	-----	240	34	$9,000
Family Groups of Residences with No Sewage Disposal							
25	6	16	Some	Yes	1280	17	$24,400
1	2	6	None	No	630	22	$13,900
2	3	10	None	?	800	34	$17,800
36	3	7	None	?	600	34	$13,700
21	3	8	None	?	800	26	$16,900
20	5	14	None	?	1500	34	$34,000
42	4	11	None	No	880	16	$14,000
35	5	14	None	(See Additional Notes			

1509 Question Mark indicates unable to confirm.
1510

Additional Notes on residences with no sewage disposal systems that are crowed close together and have very poor soil conditions and may need community system/variable cost systems/other land needs.

Numbers 12, 10, 26, 27, and 11

Have 11 residences and 28 bedrooms that are within 0.2 miles from each other and some have little room and very poor soil. A few may not be suitable for any type of system on site. Additional land will be needed for a community system.

Number 15

This is one mobile home with very bad soil, but there are four other mobiles homes in this approved subdivision with small lots. Additional land will most likely be needed.

Numbers 28, 29

Five residences on two small lots; will need additional land or move some mobile homes.

Number 4

At the time of the survey, it did not look like anyone lived there; very high water table

Number 5

Very bad soil; land across road better

Number 40

Mobile home behind existing house very high water table

Number 35

Five residences and 14 bedrooms on one acre of land; very bad soil

Appendix Three: Survey Form

Lowndes County

Survey of On-Site Wastewater Disposal System

Owner/Renter_____ **City/Town**_____

Address_____Latitude_____

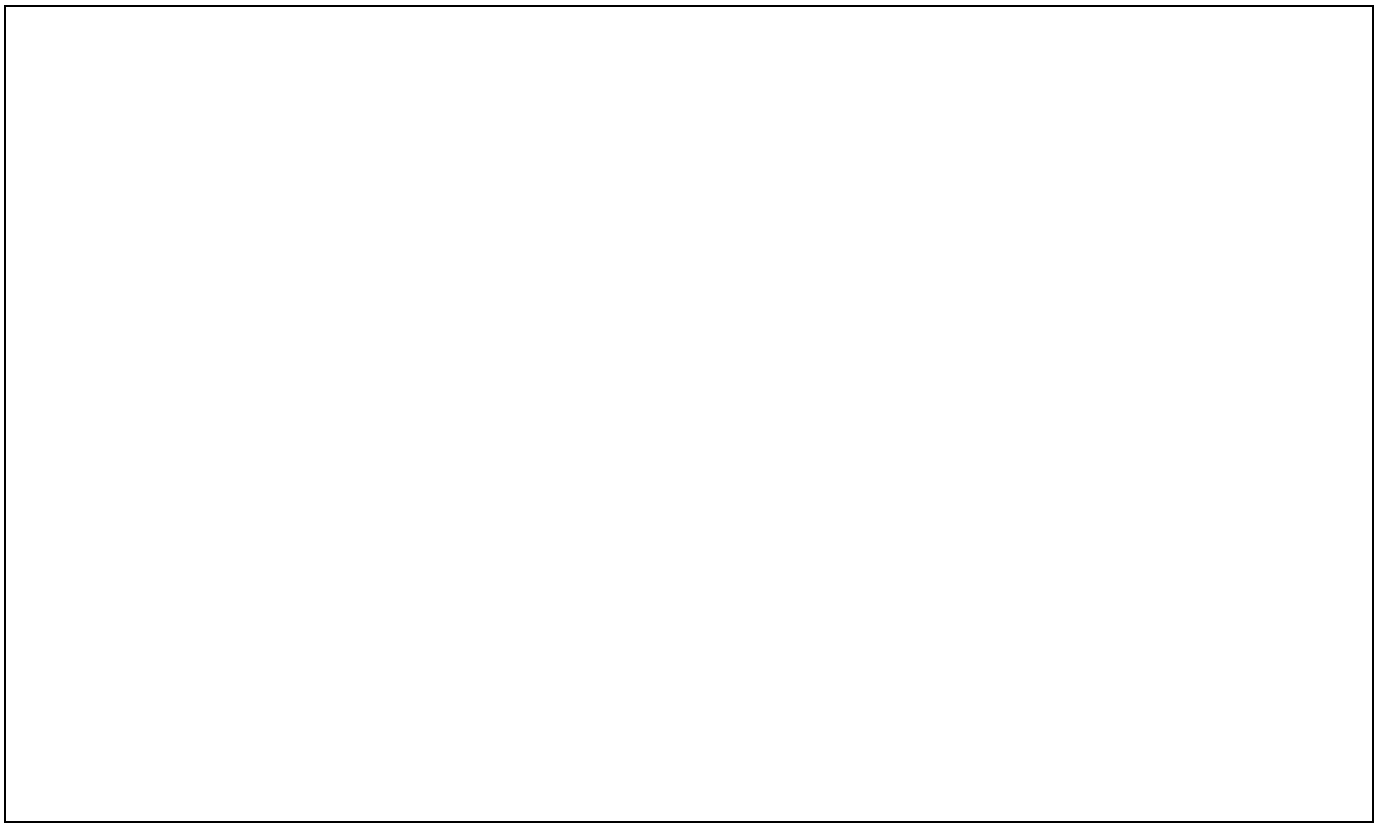
Estimated Lot Size_____Longitude_____

Size of System, if Known No. of Bedrooms in Dwelling_____
Gallon Tank_____

Additional Comments and Observations: Estimated L.F. of Field Lines_____

Is RAW SEWAGE present on Ground's Surface? _____Yes; _____ No

Where_____(Depict Graphically Below)



Appendix Four: Resumes of Key Project Personnel

William P. (Pres) Allinder

Alabama Dept. of Public Health
Director, Bureau of Environmental Services
RSA Tower
201 Monroe St.
Montgomery, AL 36104
334-206-5373

Education and Professional Information

1972 - Bachelor of Civil Engineering - Auburn University
1977 - Professional Engineer
1994 - Professional Land Surveyor

Experience

1972 to 1979 - Consulting Engineering Companies
-general engineering design
-Sanitary Sewer Evaluation Studies
1979 to 1995 - Alabama Department of Conservation
-Design Engineer
1995 to present - Alabama Dept. of Public Health

or

William P. (Pres) Allinder

Mr. Allinder graduated from Auburn University with a Bachelor of Civil Engineering in 1972. Prior to beginning work with the State of Alabama, he was in private practice for seven years. He began his state career with the Dept. of Conservation as their Design Engineer and spent the next sixteen years designing and building various outdoor recreation facilities along with typical civil engineering projects. He transferred to the Dept. of Public Health in 1995 and was named the Director of the Bureau of Environmental Services in January of 1996. He is a certified Professional Engineer and Land Surveyor in Alabama.

Pres is married to the former Sheryl Patterson of Dadeville, AL. They have three children, reside in Slapout, AL, and attend Shoal Creek Baptist Church.

BIOGRAPHICAL SKETCH
of
Catherine Coleman Flowers

Catherine Coleman Flowers serves as Executive Director of the Alabama Center for Rural Enterprise Community Development Corporation, Inc., a 501C3. She served as the Director of the Alabama Rural Initiative of the National Center for Neighborhood Enterprise (NCNE) for four years. The organization transitioned to ACRE which has been in existence for two years. Serving the citizens of Lowndes County, one of the 10 poorest counties in Alabama's Black Belt, the Alabama Rural Initiative under Ms. Flowers' leadership has been able to bring significant resources to the county to address its many infrastructure and social problems. The highest priorities of ACRE are Wastewater Management and Housing, and she is dedicated to providing solutions to these to problems.

Ms. Flowers formerly served as the economic development coordinator for Lowndes County from 2001 to 2003. In this capacity, Ms. Flowers worked to develop strategies and programs to spur economic growth. She wrote the grant that funded the writing of the Comprehensive Economic Development Strategy (CEDS) for the county. Working with Hamer, Siler and George, she facilitated community involvement in the development of the CEDS plan. Funded by the Economic Development Administration of the United States Department of Commerce, the CEDS was essential to the securing of $4.2 million for infrastructure development within the industrial parks. The industrial parks, located in Fort Deposit, Alabama, the county's largest city, and the Tyson plant, near Hayneville, house two tier one suppliers to Hyundai. The NCNE Community Resource Center, which she administers, provides numerous services to residents including job information, medical treatment, financial literacy training, homeownership training and career development. A partnership with the Canterbury High School has led to the September 2005 opening of the Jonathan Myrick Daniels Annex, a quality high school based on the philosophy of Dr. William Glasser. Located in the Town of White Hall, this new school will provide residents of Lowndes County an opportunity to complete their high school education as well as develop new competencies that will aid in making better choices.

Ms. Flowers is a graduate of Cameron University in Lawton, Oklahoma. She can be reached at CatherineFlowers@acrecdc.com.

AVIS L.MCGHEE
P. O. Box 241504
Montgomery, Alabama 36124
avismcghee@acrecdc.com
(334)877-1668

EXPERIENCE

February 2006 – Present
Assistant Director, Alabama Center for Rural Enterprise CDC
(*formerly NCNE Alabama Rural Initiative***), White Hall, AL**

- Work closely with the president and board to develop organization strategy to help ensure the sustainability and success of the organization.
- Develop, market, and execute community outreach programs to create opportunities for client growth.
- Assist with developing office policies and procedures to maximize productivity and client services.
- Handle bookkeeping and work closely with accounting firm to maintain accurate records and financial documentation.

January 2003 – February 2006
Assistant Director, NCNE Alabama Rural Initiative, White Hall, AL

- Assisted director with carrying out organization objectives and mission, supervised staff and volunteers, and worked closely with consultants on special projects.
- Managed special events and assisted with media activities to raise organization profile.
- Handled client intake and case management.
- Coordinated First Time Homebuyer Workshop and other educational programs related to homeowner preparation and job readiness.
- Prepared small grant requests and related reports for Financial Literacy program and served as workshop facilitator.

May 2000 – August 2001
Community Affairs Specialist, Federal Home Loan Bank of Atlanta, Atlanta, GA

- Established and maintained relationships with key publics in government, media, banking and housing industries.
- Developed and executed public events to promote community development programs in local communities thereby increasing name recognition and public exposure for the Bank.
- Executed media relations strategy resulting in extensive national and local media coverage.
- Served as project leader for 2000 *Community Involvement Annual Report* –developed concept, theme and content and authored articles for company magazine.

January 1997 – May 2000
Marketing Associate – Public Relations, Federal Home Loan Bank of Atlanta, Atlanta, GA

- Served as producer for Bank's award winning video *At Home.*
- Managed the Bank's print advertising program and handled ad placements for the Federal Home Loan Bank System.
- Assisted with the development and marketing of the Bank's speakers bureau and identified opportunities for speaking engagements and editorial coverage to increase Bank's visibility.

September 1990 – January 1997
Marketing Specialist, Federal Home Loan Bank of Atlanta

- Planned and executed seminars and meeting for prospective and existing customers in Bank's seven state district.
- Established and maintained relationships with trade associations and tracked industry conferences and other events to identify marketing opportunities.
- Developed marketing plans for select Bank products.
- Conducted customer focus group meetings.

December 1988 – September 1990
Meeting Planner, Federal Home Loan Bank of Atlanta

- Developed business forms to streamline meeting planning process.
- Served as back up for in-house travel agent.
- Set-up travel library providing local, national and international resource materials for staff.

Additional: September 2001 – January 2003, Van Tech Heating & Air, Atlanta, GA; August 1987 – September 1988, First Union National Bank of Georgia, Atlanta, Georgia; January 1984 – May 1987, Office of U.S. Senator/Congressman Wyche Fowler, Jr., Washington, DC.

EDUCATION

Pursing B.A., Applied Behavioral Science National Louis University, Evanston, IL – expected completion Spring 2007.
Core studies at Howard University, Washington, DC and Georgia State University, Atlanta, Georgia.